

Amendment A
Application No. 10/605,473
Attorney Docket No.: 718395.52

REMARKS

The following remarks are in response to the Office Action mailed November 17, 2004.

It is noted with deep appreciation that Claim 27 has been indicated as allowable if written in independent form. In view of the arguments presented below and the amendments to the Claims, it is submitted that the Claims are now in a condition for allowance. Therefore, it is respectfully believed that Claim 27 does not need to be rewritten in independent form.

Claims 1-3, 6-7, 10-12, 40, 43-46 stand rejected under 35 U.S.C. Section 102(b) as being anticipated by Gire et al. Claims 4-5, 22-23, 25, 41-42, 49-50 stand rejected under 35 U.S.C. Section 103(a) as being unpatentable under Gire et al. in view of Flider. Claims 1 and 6-8 stand rejected under 35 U.S.C. Section 102(b) as being anticipated by Ehrhardt. Claim 9 stands rejected under 35 U.S.C. Section 103(a) as being unpatentable under Ehrhardt in view Babin. Claims 1, 12-13 stand rejected under 35 U.S.C. Section 102(b) as being anticipated by Muckler. Claims 1 and 14-17 stand rejected under 35 U.S.C. Section 102(b) as being anticipated by Snyder. Claims 1 and 18 stand rejected under 35 U.S.C. Section 102(b) as being anticipated by Burdick. Claims 1, 19-20, 22 and 24 stand rejected under 35 U.S.C. Section 102(b) as being anticipated by Ford et al. Claim 21 stands rejected under 35 U.S.C. Section 103(a) as being unpatentable over Ford et al. in view of Koch et al. Claims 25 and 28 stand rejected under 35 U.S.C. Section 103(a) as being unpatentable over Ford et al. in view of Flider. Claims 25-26, 36-39 and 52-57 stand rejected under 35 U.S.C. Section 103(a) as being unpatentable over Aoki et al. in view of Spies et al. and further in view of Flider. Claims 29-34 stand rejected under 35 U.S.C. Section 103(a) as being unpatentable over Lehmann in view of Inoue et al. Claim 35

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stands rejected under 35 U.S.C. Section 103(a) as being unpatentable over Lehmann in view of Inoue et al. in further view of Spies et al. and Flider. Claims 40 and 47-49 stand rejected under 35 U.S.C. Section 102(e) as being anticipated by Winquist et al. Claim 51 stands rejected under 35 U.S.C. Section 103(a) as being unpatentable over Winquist et al. in view of Flider. Claims 1, 22, 25, 29, 36, 38, 40, 49, 52 and 57 are independent Claims. Of the independent claims, Claims 1, 22, 40 and 49 have been rejected for anticipation.

Several references were applied to the Claims to reject them under 35 U.S.C. Section 102(b). Those references include Gire et al., Ehrhardt, Muckler, Snyder, Burdick, Ford et al. and Winquist et al. For the purposes of the present invention, these references teach essentially the same type of structure and are deficient in the teaching required to support a rejection of the amended Claims which now contain all similar limitations regarding the rotary valve. Gire et al. discloses a valve for controlling a vertical take-off and landing aircraft. In the terms of the language used in the Claims of the present invention, this valve has only a single fluid passage arrangement and does not contain two fluid passage arrangements that are connected in fluid communication with one another as defined in all the claims. Ehrhardt, as best seen in Figs. 3 and 4, has only a single fluid passage arrangement in the rotary valve element then the valve arrangement being shown in Figs. 3A-D. The fluid passage arrangements in these Figures are for water while the fluid passage arrangements shown in Figs. 4A and 4B are for air. The two fluid passage arrangements are not connected together in fluid communication. Muckler discloses a sink drain and is basically an on/off valve and does not have the two fluid passage arrangements that are connected in fluid communication. Snyder discloses a selector valve that does not have

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two fluid passage arrangements connected in fluid communication. Burdick discloses a drive mechanism for charts and has a valve arrangement shown in Fig. 2; however, the valve arrangement does not have the defined two fluid passage arrangements that are connected in fluid communication. Ford et al. discloses a hydraulic rotary selector valve which may be best seen in Fig. 4. It includes an inlet 40 and numerous outlets 22 with certain of the outlets being controlled by one spool 34 and others being controlled by another spool 35. Fluid is fed from the inlet 40 through several of the valve elements 70 which may be selected by rotation of the spool 34 or 35 to allow fluid to flow from the inlet 40 to various of the outlets 22 to control cylinders on a planing machine. There is no disclosure of two fluid passage arrangements connected in fluid communication. Winquist et al. discloses a four-way valve which is of the ball valve type. While it has a rotary valve element, it does not have the defined two fluid passage arrangements that are connected in fluid communication with one another.

The present invention is directed to a valve for controlling fluid flow and an associated method of use. The valve is particularly adapted for use to control the flow of coolant in an automotive-type cooling system. Such systems usually require multiple inlets and outlets. Some of the art cited addresses such valves, for example U.S. Patent No. 5,809,944 and U.S. Patent No. 5,617,815. Typically, the environments of use of such valves are very restricted in space both through the valve and the hoses used to connect the valve to various components. For example, the radiator bypass, the engine and the heater. Additionally, it is preferred to have the valves small. The present invention provides a solution to the problems encountered with such valves by providing a multilayer valve arrangement that includes a first fluid passage

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arrangement and a second fluid passage arrangement with the first fluid passage arrangement being adapted to receive inlet fluid which inlet fluid is then distributed to the first fluid passage arrangement and multiple outlet ports and also from the first fluid passage arrangement to the second fluid passage arrangement for further distribution. As shown in the drawings, the two fluid passage arrangements are spaced apart along the axial length of the valve rotor thereby providing additional circumferential space for the attachment of hoses and the like. Some of the hoses to be connected are quite large, particularly those to and from the radiator. Also, by providing the two fluid passage arrangements, more variability and control as to the flow into and out of the valve can be accomplished. None of these features, or the concepts, are shown in any of the cited references, which references were discussed above.

All Claims in the subject Application require a rotary valve element with a first and a second fluid passage arrangement that are connected in fluid communication with one another. In operation, fluid flows through an inlet into the first fluid passage arrangement and then at least some fluid flows into the second fluid passage arrangement. This is to distribute fluid to various outlet ports of which there are at least two, one in communication with the first fluid passage arrangement, and one in communication with the second fluid passage arrangement. All the rejections to the Claims are based on the above discussed references as they do not teach or suggest defined elements. The independent Claims rejected for anticipation, i.e., Claims 1, 22, 40 and 49, are all now clearly distinguished from the primarily applied references as each and every claimed element is not disclosed in the cited references. Because these independent

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Claims are now clearly distinguished from the applied references, all the depending claims are also allowable.

Independent Claims 25, 36, 38, 52 and 57 were rejected under 35 U.S.C. Section 103(a) as being unpatentable over Aoki et al. in view of Spies et al. and in further view of Flider. These three (3) references are similar in their teaching as in the above discussed references applied in 35 U.S.C. Section 102(b) rejections. None of these references discloses a valve having a rotary valve element with two fluid passage arrangements connected in fluid communication with one another. Because none of these references teach or suggest the structure defined in the amended Claims, they will not support the 35 U.S.C. Section 103(a) rejections.

Claim 29, the only other independent Claim and stands rejected under 35 U.S.C. Section 103(a) over Lehmann in view of Inou et al. Lehmann is similar to the above discussed references, and does not disclose a rotary valve element with two fluid passage arrangements therein and that are connected within fluid communication with one another. Inou et al. is cited for the use of sensors. Because Lehmann does not teach the defined structure of Claim 29, the rejection of Claim 29 under 35 U.S.C. Section 103(a) must also fail for the above discussed reasons.

Because the dependent Claims all depend from allowable Claims, as discussed above, these dependent Claims are also allowable.

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If any issue regarding the allowability of any of the pending claims in the present application could be readily resolved, or if other action could be taken to further advance this application such as an Examiner's Amendment, or if the Examiner should have any questions regarding this amendment, it is respectfully requested that Examiner please telephone Applicants' undersigned Attorney in this regard.

Respectfully submitted,

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